

REMARKS

Claims 1-32 are pending in the subject application: claims 1-28 have been examined and stand rejected. By the above amendments, claims 1, 17, and 20 have been amended, and new claims 29-32 have been added. The amendments to claims 1 and 20 have been made only for clarity and readability and not to address or overcome any rejection. Favorable reconsideration of the application and allowance of all of the pending claims are respectfully requested in view of the following remarks.

Claim 17 has been amended to correct the typographical error noted by the Examiner.

Claims 1-5, 8-10, 17-22, 24, and 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,175,551 to Awater et al. Further, dependent claims 6, 7, 11, 16, 23, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Awater, and dependent claims 12-15, 27, and 28 stand rejected as being unpatentable over Awater in view of U.S. Patent No. 5,263,048 to Wade. Applicant respectfully traverses these rejections for the following reasons.

Independent claim 1 sets forth a system for generating a signal for transmission in non-contiguous frequency bands that are separated by at least one segment of frequency spectrum excluded from use in transmitting the signal. According to claim 1, a non-contiguous spectrum selector converts a digital time-domain signal to a frequency-domain signal and excises a portion of the frequency-domain signal corresponding to the at least one segment of frequency spectrum. Thus, claim 1 requires the excised segment of frequency spectrum to lie between non-contiguous frequency bands that are used to transmit the signal. Independent method claim 20 similarly requires excising a segment of frequency spectrum separating non-contiguous frequency bands.

Awater does not disclose or suggest a system or method for transmitting a signal in non-contiguous frequency bands as required by independent claims 1 and 20. The scheme disclosed by Awater generally addresses the problem of large peak-to-average power ratios in orthogonal frequency (or code) division multiplex (OFDM and OCDM) by reducing the peak power of selected signal samples. As can be readily understood from Awater's disclosure, this process does not involve excising portions of the frequency spectrum between non-contiguous bands

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used to transmit the signal, but rather performing time-domain filtering to reduce the peak amplitude in certain signal samples.

The specific portion of Awater's disclosure relied upon by the Examiner is a low pass filter 56 shown in Fig. 4. As described by Awater at column 4, line 66 – column 5, line 6, low pass filtering is accomplished in the frequency domain by performing an FFT, setting the frequency components to zero above a desired frequency, and transforming the signal back to the time domain via an IFFT. However, by definition (and according to the description in Awater), a low pass filter passes low frequency components of a signal and filters out higher frequency components, i.e., those frequencies above a specific cut-off frequency. Consequently, the signal produced by Awater's low pass filter includes only frequencies in a band below the zeroed frequencies; there are no signal components remaining in another frequency band above the zeroed frequencies (otherwise, Awater's filter 56 would not be a low pass filter). Thus, Awater's low pass filter does not excise a portion of a frequency domain signal that separates non-contiguous bands of a signal to be transmitted, and the filtered signal produced by Awater's low pass filter does not include signal components in non-contiguous bands separated by a filtered-out (excised) band, as required by claims 1 and 20. In short, claims 1 and 20 do not read on a low pass filter, because a low pass filter, such as Awater's, filters out higher frequencies and does not excise frequencies to produce a signal with non-contiguous bands separated by the excised bands. Accordingly, Awater does not anticipate claims 1 or 20 or their dependent claims.

Moreover, claims 1 and 20 would not have been obvious from Awater, since it would not have been obvious to modify a low pass filter to filter out only an intermediate band of signals separating two non-contiguous bands. In Awater's scheme, the purpose of the low pass filter is to eliminate high-frequency components. Thus, modifying Awater's low pass filter to pass signals in a higher, non-contiguous frequency band would go against the stated purpose of Awater's low pass filter, which is to eliminate such high-frequency components.

Furthermore, it is clear from brief review of Applicant's Fig. 1 that the claimed non-contiguous spectrum selector does not perform a function analogous to low pass filtering, since

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Applicant's circuit includes a separate low pass filter 38 for this purpose. Thus, the subject matter of claims 1 and 20 and their dependent claims would not have been obvious from Awater.

Wade, which is cited for features recited in specific dependent claims, does not compensate for the deficiencies of Awater, since Wade also does not disclose or suggest excising a segment of frequency spectrum between non-contiguous frequency bands of a transmission signal. Consequently, the subject matter of claims 1 and 20 would not have been obvious from any combination of Awater and Wade. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejections of claims 1-28.

New dependent claims 29 (29/1) and 31 (31/20) require excision of the portion of the frequency-domain signal corresponding to the at least one segment of the frequency spectrum, independent of a signal level of the digital time-domain signal or frequency-domain signal. Support for claims 29 and 31 is found in Applicant's specification at least at page 8, line 30 through page 9, line 12.

New dependent claims 30 (30/1) and 32 (32/20) require a bandwidth of the frequency domain signal to correspond to an overall band that extends from a lowest frequency of a lowest of the non-contiguous frequency bands to a highest frequency of a highest of the non-contiguous frequency bands. Support for claims 30 and 32 is found in Applicant's specification at least at page 8, lines 3-5 and page 10, lines 3-7. Claims 29-32 are allowable over the prior art of record at least by virtue of their dependence on parent claims 1 and 20 for the reasons explained above.

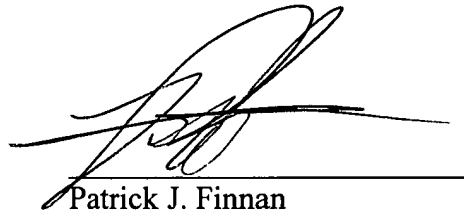
In view of the foregoing, Applicant respectfully requests the Examiner to find the application to be in condition for allowance with claims 1-32. However, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney to discuss any unresolved issues and to expedite the disposition of the application.

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Filed concurrently herewith is an excess claim fee in the amount of \$200 for four claims in excess of the twenty-eight claims previously paid for. Applicant hereby petitions for any extension of time that may be necessary to maintain the pendency of this application. The Commissioner is hereby authorized to charge payment of any additional fees required for the above-identified application or credit any overpayment to Deposit Account No. 05-0460.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Patrick J. Finn', is written over a horizontal line.

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